TCT-252

Prognostic value of ACEF (age, creatinine, ejection fraction) score of one year mortality in 30-day survivors undergoing percutaneous coronary intervention after acute myocardial infarction

Jang Hoon Lee[1], Myung Hwan Bae[1], Shung Chull Chae[1], Yongkeun Cho[1], Se Yong Jang[1], Jae Hee Kim[1], Sun Hee Park[1], Hun Sik Park[1], Dong Heon Yang[1]
[1]Kyungpook National University Hospital, Daegu, Korea, Republic of

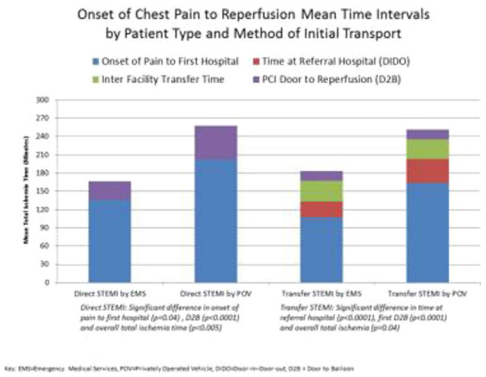
Background: Predictors of one year mortality in 30-day survivors after acute myocardial infarction (AMI) has not been elucidated yet. Recently, several studies reported that ACEF (age, creatinine, ejection fraction) score could provide a prognostic information in patients undergoing percutaneous coronary intervention (PCI) after AMI. Accordingly, the aim of this study is to assess whether ACEF score could predict one year mortality in 30-day post-MI survivors.
Methods: Between November 2005 and August 2011, 12,000 30-day post-MI survivors (8760 men; mean age = 62.2±12.4 year-old) underwent PCI were analyzed in this study from Korea AMI registry. ACEF score was calculated on the basis of the modified formula; [age/left ventricular ejection fraction] + 1 if serum creatinine >2mg/dL. Patients were categorized into 3 groups according to tertiles of ACEF score; ACEF_low (<1.0, n=3,755), ACEF_mid (1.0-1.39, n=4,470), and ACEF_high (≥1.4, n=3,775).
Results: During the follow-up, ACEF score was significantly higher in 30-day post-MI survivors with 12-month mortality (1.28±5.04 versus 1.95±0.82, p <0.001). In Cox proportional hazards model, ACEF score (hazards ratio [HR] 2.26, 95% confidence interval [CI] 2.03 – 2.51; p <0.001) was an independent predictor of 12-month mortality after adjusting for conventional clinical risk factors. In receiver operating characteristics curves, area under the curve (AUC) of ACEF score for predicting 12-month mortality was 0.788 (sensitivity 71.2% and specificity 74.4%), and optimum cut-off value was 1.47. Kaplan-Meier survival curve showed the patients with ACEF score of 1.47 or more (6.9% versus 1.0%; log-rank p <0.001) had significantly higher 12-month mortality compared with patients with ACEF score <1.47. The 12-month mortality was 0.4% in ACE-F_low, 1.4% in ACEF_mid, and 6.1% in ACEF_high, respectively (p<0.001). Adjusted HRs for 12-month mortality were 1 (reference), 3.11 (95%CI 1.70 - 5.70; p<0.001), and 10.38 (95%CI 5.83 – 18.47; p<0.001), respectively.
Conclusions: The ACEF score provides useful prognostic information for clinicians to advise patients who have survived the acute phase of AMI. More intensive management is required in post-MI survivors with high ACEF score.

TCT-253

Calling 911 Anywhere Best Determines Reduction in Total Ischemia Time in ST-Elevation Myocardial Infarction (STEMI)

Bryan H. Wilson[1], John Cedarholm[1], Angela D. Humphrey[2], William Downey[1], Glen Fandetti[1], J. Lee Garvey[2], Robert Haber[1], Glen Kowalchuk[1], Michael Rinaldi[1]
[1]Sanger Heart and Vascular Institute, Charlotte, NC, [2]Carolinas HealthCare System, Charlotte, NC

Background: Since consistent rapid door-to-balloon (D2B) times have largely been solved in most PCI hospitals, reduction in total ischemia time (RITIT) from symptom onset to less than 120-180 minutes to reperfusion has been proposed as a better goal (rather than first medical contact) to reduce mortality in regional systems of STEMI care. Therefore we sought key drivers of RITIT in our combined metro and regional STEMI system.
Methods: Treatment times from January 2011-March 2013 representing direct (non-transfer) and transfer patients for PCI reperfusion for STEMI from a 9 hospital metro and regional system serving over 2 million were collected and a multivariable analysis of gender, age, race, off hours onset of pain, and method of initial transport was performed.
Results: A total of 197 patients were direct STEMI patients with 168 arriving by emergency medical services (EMS) and 75% having onset of pain to reperfusion in <= 180 minutes, while 29 came by privately operated vehicle (POV) with 52% within 180 minutes (p=0.01). A total of 195 patients were transfer STEMI with 56 arriving at the referral hospital by EMS and 139 arriving by POV with 75% EMS having total ischemia time <= 180 minutes versus 57% POV (p=0.02). Details of mean time interval differences for both groups are shown in the graph below:



Conclusions: Only the method of arrival to the initial hospital was significant in multivariable models of total ischemia time. In both metro and regional settings, calling 911 for EMS is the key determinant for subsequent RITIT in STEMI and leads to time reduction in every step to reperfusion.

TCT-254

Everolimus Eluting Bioresorbable Vascular Scaffolds In Patients With ST-Segment Myocardial Infarction. Safety Feasibility and Acute Performance

Roberto Diletti[1], Antonios Karanasos[2], Takashi Muramatsu[3], Shimpei Nakatani[4], Sjoerd T. Nauta[3], Yoshinobu Onuma[5], Evelyn Regar[6], Carl J. Schultz[7], Patrick W. Serruys[6], Robert J. Van Geuns[8], Nicolas M. Van Mieghem[8], Felix Zijlstra[9]
[1]Thoraxcenter, Rotterdam, The Netherlands, Rotterdam, Netherlands, [2]Thoraxcenter, Erasmus MC, Rotterdam, Zuid Holland, [3]Thoraxcenter, Erasmus Medical Center, Rotterdam, Netherlands, [4]Sakurabashi-Watanabe Hospital, Osaka, Japan, [5]ThoraxCenter, Rotterdam, Rotterdam, [6]Thoraxcenter, Rotterdam, Netherlands, [7]Erasmus Medical Centre, Rotterdam, Zuid Holland, [8]Erasmus MC, Rotterdam, Netherlands, [9]Erasmus University Medical Center, Rotterdam, Netherlands

Background: No data are currently available on the use of everolimus eluting bioresorbable vascular scaffolds (BVS) in patients presenting with ST-segment elevation myocardial infarction (STEMI).
Methods: The present report is a prospective, single arm, single centre study evaluating the safety, feasibility and performance of BVS for treatment of consecutive patients presenting with STEMI. Baseline quantitative coronary angiography and post-implantation optical coherence tomography (OCT) data were evaluated. Clinical outcomes are reported at 30-day follow-up.
Results: The intent-to-treat population comprises a total of 40 patients. The procedural success was 97.5% (39/40 patients). Mean door-to-needle time was 30.33 ± 18.51 min. Male gender was present in 31 patients (77.5%). Mean age was 57.9±9.8 years. Pre-procedure TIMI flow was 0 in 52.6% of the patients; Thrombectomy was performed in 31 patients (79.5%), and additional balloon pre-dilatation in 22 subjects (56.5%). After BVS implantation a TIMI flow III was achieved in 35 patients (89.7%), no reflow was observed in 1 case (2.6%), and distal embolization in 7 cases (17.9%). The post-procedure %diameter stenosis was 15.3 ± 8.2%. MI SYNTAX score I and II were respectively 10.5 (7.5-15.0) and 8.0 (5.0-13.0). OCT analysis was performed in a total of 25 patients. The mean lumen area was 7.76±1.88 mm2, minimum lumen area 5.61±1.48 mm2, minimum flow area 5.29±1.54 mm2, mean incomplete stent apposition area 0.131±0.179 mm2, mean prolapse area 0.58±0.28 mm2, mean intraluminal material area 0.013±0.017 mm2; mean %malapposed struts 2.80±4.11%, scaffolds with >5% malapposed struts were 5. At 30-days follow-up the MACE rate was 2.6%, this was due to a non-target vessel Non Q-Wave myocardial infarction (MI), Target vessel failure rate was 0%. No target vessel revascularisation, and target vessel MI were reported. No cases of cardiac death or scaffold thrombosis were observed.
Conclusions: The use of BVS in patients presenting with acute myocardial infarction was observed to be safe and feasible. Angiographic and OCT data showed optimal acute results with high rate of TIMI III flow, low residual stenosis and good apposition of the scaffold.

TCT-255

Favourable Long-term Survival Of Out-of-hospital Cardiac Arrest Patients Managed With Systematic Coronary Angiogram On Admission

Sebastian Voicu[1], Giorgos Sideris[2], Julien Adjedj[3], Jean-Guillaume Dillinger[4], Nikos Magkoutis[3], Nicolas Deye[3], Stephane Manzo-Silberman[4], Bruno Mégarbane[5], Frédéric J. Baud[6], Patrick Henry[7]
[1]Hopital Lariboisiere, Paris, France, [2]Hôpital lariboisière, Paris, France, [3]Hôpital Lariboisière, Paris, France, [4]Hopital Lariboisière, Paris, France, [5]Hôpital Lariboisière, Paris, France, [6]hôpital Lariboisière, Paris, France, [7]Lariboisière Hospital, Paris, France

Background: Coronary angiogram (CA) with percutaneous coronary intervention (PCI) on admission may improve survival to hospital discharge in out-of-hospital